

Remarks

The Office Action mailed September 6, 2005 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-18 and 20-29 are now pending in this application, of which claims 1, 5, 9, 12, 22, and 29 have been amended. It is respectfully submitted that the pending claims define allowable subject matter.

The rejection of claims 1, 2, 4-6, 8, 9, 11, and 29 under 35 U.S.C. § 102(e) as being anticipated by Douglass et al. (U.S. Patent No. 6,566,996) is respectfully traversed.

The Office Action cites a curvature of the corners of the Douglass et al. extension member (50) and the curved corners (90) of the Douglass et al. backing layer (56) against claim 1.

Claim 1 has been amended for clarity and now recites a fuse state indicator for a fuse including a cylindrical fuse body and a primary fuse element therein, said fuse state indicator comprising "an extension member having an outer surface, the outer surface having a curvature complementary to a curvature of the cylindrical fuse body. . . . and a curved backing layer adjacent said secondary fuse link, the backing layer having a major surface and a minor surface peripheral to the major surface, the major surface having a curvature complementary to the curvature of the extension member."

The Douglass et al. extension member (50) clearly does not have an outer surface having a curvature complementary to a curvature of a cylindrical fuse body as claim 1 recites. As shown in Figures 2-5 of Douglass et al., the extension member (50) is generally flat and smooth on its outer surface where it engages an inner surface of the fuse casing (14) as shown in Figure 1. The major surface of the Douglass backing layer (56) is likewise flat and smooth, and to the

extent that the peripheral minor surfaces of the Douglass et al. backing layer (56) include any curvature at the corners (90), the curvature of the minor peripheral surface is inconsequential to the invention of claim 1. Only a curvature of the major surface is recited in the claim.

Applicants maintain that the curved backing layer recited in claim 1 is nowhere described or suggested by Douglass et al., and claim 1 is submitted to be patentable over Douglass et al.

Claims 2, 4-6, 8, 9, and 11 depend from claim 1, and when the recitations of claims 2, 4-6, 8, 9, and 11 are considered in combination with the recitations of claim 1, claims 2, 4-6, 8, 9, and 11 are likewise submitted to be patentable over the cited art.

Moreover, claim 5 has been amended for clarity, and Douglass et al. do not describe or suggest an extension member that is elongated in a longitudinal direction and curved in a lateral direction, thereby defining a cylindrical outer surface to engage an inner surface of the cylindrical fuse body. As noted above, the Douglass et al. extension member (50) is generally flat and smooth on its outer surface where it engages an inner surface of the fuse casing (14) as shown in Figure 1.

Claim 9 has been amended for clarity and now recites that the backing layer is flexible to assume the curvature of said extension member when attached thereto. The Douglass et al. backing layer (56) is snap fit to the extension member (50) via deflection of retaining arms (58) while the general shape and form of the backing layer (56) does not change. That is, the backing layer (56) does not assume the shape of the extension member at all, but rather the retaining arms (58) are deflected by the backing layer (56) and resiliently maintain the backing layer (56) in a desired position.

Claim 29 now recites a fuse state indicator for a fuse including a primary fuse element in an insulative body, the insulative body having an aperture therethrough for fuse state identification, said fuse state indicator comprising: "an insulative extension member having a

body defining a substantially cylindrical outer surface and defining a cavity extending from the cylindrical outer surface,” “an ignitable and combustible substance received within said cavity,” “a secondary fuse link extending across said extension member and said cavity such that said secondary fuse link is positioned adjacent said combustible substance,” and “a backing layer coupled to said extension member and closing said cavity over said combustible substance, wherein said secondary fuse link is positioned between said backing layer and said combustible substance, said backing layer being flexed to conform to the cylindrical shape of the extension member and at least partially concealed by said combustible substance when viewed through the aperture in insulative fuse body before the primary fuse element has opened, said backing layer maintaining said secondary fuse link in position with respect to said combustible substance, said combustible substance being ignited and combusted to reveal said backing layer when said secondary fuse link opens.”

The Douglass et al. indicator does not include an insulative extension member having a body defining a substantially cylindrical outer surface and defining a cavity extending from the cylindrical outer surface, and backing layer being flexed to conform to the cylindrical shape of the extension member, together with the other recitations of claim 29. The Douglass et al. extension member (50) is generally flat and smooth on its outer surface from which the housing (74) extends. Likewise, the Douglass et al. backing layer (56) is generally flat and smooth and underlies the extension member (50). In other words, each of the Douglass et al. extension member (50) and backing layer (56) have a generally planar outer surface that confront one another when the Douglass indicator is assembled.

The indicator of claim 29 is therefore respectfully submitted to be neither described nor suggested by Douglass et al., and claim 29 is respectfully submitted to be patentable over the same.

For the reasons set forth above, Applicants respectfully request that the Section 102 rejection of claims 1, 2, 4-6, 8, 9, 11, and 29 be withdrawn.

The rejection of claims 1, 5, 6, 8-12, 15-18, 20, 22, and 25-29 under 35 U.S.C. § 103(a) as being unpatentable over Ogle (U.S. Patent No. 809,978) in view of Darr et al. (U.S. Patent No. 6,373,370) and Borchart (U.S. Patent No. 4,127,837) is respectfully traversed.

Ogle is cited for teaching of cylindrical fuses with indicators. Darr is cited for teaching an extension member (42) having a curvature located at the corners and retaining projections (78) and a backing layer (46) having curves along the edges and the corners thereof. Borchart is relied upon for its teaching of a combustible substance.

Claim 1 recites a fuse state indicator for a fuse including a cylindrical fuse body and a primary fuse element therein, said fuse state indicator comprising “an extension member having an outer surface, the outer surface having a curvature complementary to a curvature of the cylindrical fuse body. . . .and a curved backing layer adjacent said secondary fuse link, the backing layer having a major surface and a minor surface peripheral to the major surface, the major surface having a curvature complementary to the curvature of the extension member.” Darr, like Douglass et al. does not disclose or suggest the extension member and the backing layer of claim 1. As Applicants have previously argued, each of Douglass et al. and Darr are silent regarding any modification of the extension member and the backing layer to use the respective indicators in other types of fuses, and each disclose extension members and backing layers having generally planar outer surfaces that confront one another when the indicators are assembled.

It is therefore respectfully submitted that Ogle, Darr et al., and Borchart, considered in combination, collectively fail to teach the fuse state indicator of claim 1. Ogle and Borchart fail to disclose extension members at all, and while Darr et al. do disclose an extension member and backing layer, a major surface of the backing layer is not curved in a complementary manner to the extension member, nor does the extension member have an outer surface with a curvature complementary to a cylindrical fuse body.

Claim 1 is therefore submitted to be patentable over Ogle in view of Darr et al., and further in view of Borchart.

Claims 5, 6, and 8-11 depend from claim 1, and when the recitations of claims 5, 6, and 8-11 are considered in combination with the recitations of claim 1, claims 5, 6, and 8-11 are likewise submitted to be patentable over the cited art.

Claim 12 recites, among other recitations, “a fuse indicator assembly comprising a secondary fuse link electrically connected between said first and second end caps, a readily ignitable and combustible substance adjacent said secondary fuse link, and a flexible backing layer coupled to an extension member and maintaining said secondary fuse link in position with respect to said combustible substance, said flexible backing layer assuming a curvature complementary to a curvature of the tubular fuse body.”

For the reasons set forth above, the features of claim 12 are nowhere found in the cited art. Darr backing layer (46) is similar to the Douglass et al. backing layer in that it is snap fit to the extension member (42) via deflection of retaining arms (78) while the general shape and form of the backing layer (46) does not change. That is, the backing layer (46) does not assume the curvature of the extension member at all, but rather the retaining arms (78) are deflected by the backing layer (46) and resiliently maintain the backing layer (46) in a desired position. Neither Ogle et al. nor Borchart discloses a base member backing layer assuming a curvature complementary to a curvature of a fuse body. Thus, the references collectively fail to teach at least this recitation of claim 12, and the invention of claim 12 is therefore not obvious over the cited art.

Claim 12 is therefore submitted to be patentable over the cited art.

Claims 15-18 and 20 depend from claim 12, and when the recitations of claims 15-18 and 20 are considered in combination with the recitations of claim 12, claims 15-18 and 20 are likewise submitted to be patentable over the cited art.

Claim 22 recites, among other recitations, a fuse indicator assembly comprising “an extension member having an outer surface, the outer surface having curvature complementary to an outer surface of the tubular body,” “a secondary fuse link electrically connected between said first and second end caps,” “a readily ignitable and combustible substance adjacent said secondary fuse-link,” and “a flexible backing layer coupled to said extension member and adjacent said secondary fuse link, said flexible backing layer assuming the curvature of the extension member when secured thereto and maintaining said secondary fuse link in position proximate said combustible substance.”

The cited art does not teach or suggest the indicator of claim 29 for the reasons set forth above. Because the references collectively fail to teach at least these recitations of claim 22, it is respectfully submitted that claim 22 is not obvious over the cited art.

Claim 22 is therefore submitted to be patentable over the cited art.

Claims 25-28 depend from claim 22, and when the recitations of claims 25-28 are considered in combination with the recitations of claim 22, claims 25-28 are likewise submitted to be patentable over the cited art.

With respect to claims 10, 18 and 27 and the recited electrical tape, Applicants note that nothing in the cited art indicates that electrical tape has been used in a manner consistent with the claims, and absent some demonstration of this in the prior art, the claims are submitted to be patentable.

With respect to claim 29, the indicator of claim 29 as amended herein is respectfully submitted to be neither described nor suggested in the cited art, for the same reasons discussed

above with respect to the Douglass et al. reference. Insofar as the Darr et al. reference is concerned, Applicants submit that it discloses no more than Douglass et al. and adds anything to the teaching of Douglass et al. with respect to the extension member and backing layer recited in the present claims. Thus, the deficiencies of Douglass et al. with respect to the present invention also are present in the Darr et al. disclosure, and because neither of Ogle, and Borchart cure such deficiencies, claim 29 is respectfully submitted to be patentable over the cited art.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejections of claim 1 , 5, 6, 8-12, 15 -18, 20, 22, and 25-29 be withdrawn.

The rejection of Claims 2-4, 13, 14, 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Ogle in view of Darr et al. and Borchart, and further in view of Sachs (U.S. Patent No. 737,280) is respectfully traversed.

Sachs describes a fuse having an indicator wire passing through the outer case or body of the fuse, and a portion of the indicator wire extends upon the surface of the case. A label is placed over the indicator wire, and the indicator wire burns the label to provide visual indication of an operated fuse. The Sachs fuse does not include a backing layer, and adds nothing to the teaching of Ogle, Darr et al. and Borchart with respect to the invention of claims 1, 12, and 22 and consequently does not cure the deficiencies of the references with respect to these claims as described above. Ogle in view of Darr et al. and Borchart, and further in view of Sachs, are not suggestive of claims 1, 12 and 22, and accordingly claims 1, 12, and 22 are submitted to be patentable over Ogle in view of Darr et al. and Borchart, and further in view of Sachs.

Claims 2-4, 13, 14, 23 and 24 are dependent claims of independent claims 1, 12, and 22, and when considered in combination with their respective base claims, claims 2-4, 13, 14, 23 and 24 are likewise submitted to be patentable over Ogle in view of Darr.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 2-4, 13, 14, 23 and 24 be withdrawn.

The rejection of Claims 7 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ogle in view of Darr et al. and Borchart, and further in view of Oh (U.S. Patent No. 5,418,516) is respectfully traversed.

Claims 7 and 21 depend from independent claims 1 and 12, respectively, which are submitted to be patentable over Ogle in view of Darr et al and Borchart. for the reasons set forth above. Oh adds nothing to the teaching of Ogle and Darr et al. and Borchart with respect to the inventions of claims 1 and 12. Oh does not describe an indicating fuse, and does not describe an extension member or backing layer as recited in the claims at issue.

Claims 1 and 12 are therefore submitted to be patentable over Ogle in view of Darr et al. and further in view of Borchart and Oh, and when the recitations of claims 7 and 21 are considered in combination with the recitations of claims 1 and 12, claims 7 and 21 are likewise submitted to be patentable over Ogle in view of Darr et al. and further in view of Oh.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 7 and 21 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

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Respectfully Submitted,

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